

FILE NOTATIONS

Entered in NID File

Entered on S R Sheet

Location Map Pinned

Card Indexed

IWR for State or Fee Land

Checked by Chief

Copy NID to Field Office

Approval Letter

Disapproval Letter

COMPLETION DATA

Date Well Completed

GW

VW

TA

GW

CS

TA

Location Inspected

Bond released

State of Fee Land

LOGS FILED

Driller's Log

Electric Logs (No.)

E

II

EH

GR

GR-N

Micro

Lat

WELL

Seismic

Others

Scout Report sent out

Noted in the NID File

Location map pinned

Approval or Disapproval Letter

Date Completed, P. & A, or
operations suspended

Pin changed on location map

Affidavit and Record of A & P

Water Shut-Off Test

Gas-Oil Ratio Test

Well Log Filed

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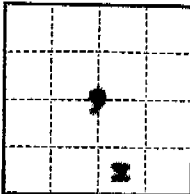
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3-25-57

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Indian Agency Window
Rock, Arizona
Allottee Tribal Lands
Lease No. I-149-IND-9125



SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

January 7, 1956

Well No. 2 is located 660 ft. from SW line and 127 1/4 ft. from E line of sec. 9
SE 1/4 10S 26E SLBM
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Wildcat San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation ~~of the bench mark~~ is 4959 ft. (Approx. ground)

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

1. Drill 11" hole to 1300'±.
2. Run and cement 8 5/8" casing at 1300'± with 350 sacks construction cement.
3. Drill 7 7/8" hole to total depth of 7400'±.
4. If commercial production is obtained a supplementary notice will be issued, otherwise plug and abandon in accordance with U.S.G.S. regulations.

Surface formation is Dakota Formation.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

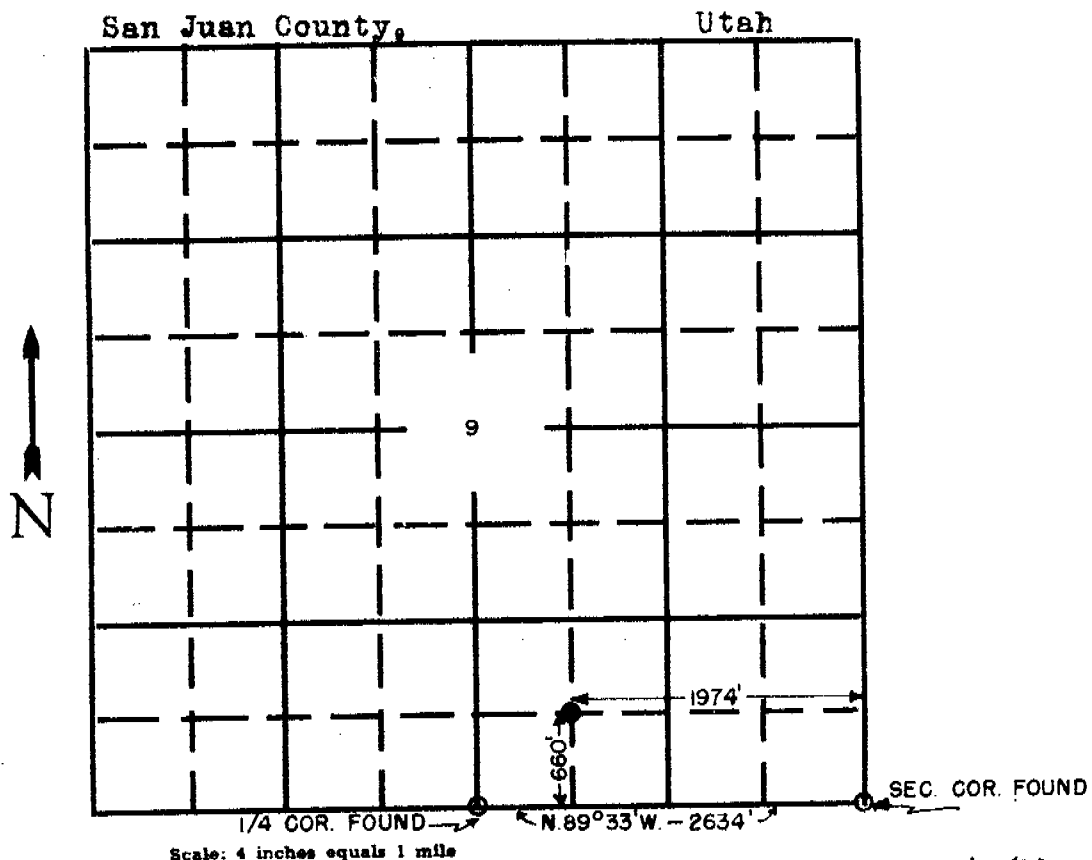
Company Shell M Company
Address 33 Richards Street
Salt Lake City, Utah
By B. W. Shepard
Title Exploitation Engineer

COMPANY Shell Oil Company

LEASE _____ WELL NO. Hovenweep No. 2

SEC. 9 T. 40 S. R. 26 E. S.L.M.

LOCATION 1974' from the east line,
660' from the south line



Ungraded ground elevation 4959'.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision and that the same are true and correct to the best of my knowledge and belief.

John A. Kroeger
John A. Kroeger
Reg. Land Surveyor

Utah Registration No. 1648



DATE Jan 5, 1957

January 8, 1957

Shell Oil Company
33 Richards St.
Salt Lake City, Utah

Gentlemen:

This is to acknowledge receipt of your notice of intention to drill Well No. Hovenweep 2, which is to be located 660 feet from the south line and 1974 feet from the east line of Section 9, Township 40 South, Range 26 East, S11E11, San Juan County.

Please be advised that insofar as this office is concerned, approval to drill said well is hereby granted.

Yours very truly,

OIL & GAS CONSERVATION
COMMISSION

GLENN B. FRIGHT
SECRETARY

GNF:en

cc: Phil McGrath
UGCS, Farmington,
New Mexico

Navajo

(SUBMIT IN TRIPLICATE)

Indian Agency

9

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Tribal Lands

Allottee

1-119-IND-9125

Lease No.

X

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....	SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL.....	SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....	SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....	SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

Well No. 2 is located 660 ft. from N line and 197 1/2 ft. from E line of sec. 9
9 406 268 SE 1/4
 (1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Wildcat San Juan Utah
 (Field) (County or Subdivision) (State or Territory)

The elevation of the derrick floor above sea level is 4959 ft. (approx. ground)

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)
 (SPUDDING 1-18-57)

1-21-57 Ran and cemented (1336') 8-5/8", 28# casing at 1353' with 400 sacks construction cement, last 100 sacks treated with 2% calcium chloride, 113#/cu ft mud ahead of cement. No cement returns to surface. Finished 5:00 A.M. 1-22-57. Recemented around outside of casing with 170 sacks construction cement. Tested casing and blow out equipment with 700 psi for 15 minutes, OK.

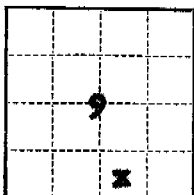
I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company
 Address 33 Richards Street
Salt Lake City, Utah
 By B. W. Shepard
 Title Exploitation Engineer

(SUBMIT IN TRIPLICATE)

Indian Agency Window
Rock, Arizona
Allottee Tribal Lands
Lease No. 1-149-IND-9125

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....	<input checked="" type="checkbox"/>	SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

January 28, 1957

Well No. 2 is located 678 ft. from 101 line and 1999 ft. from 101 line of sec. 9

SE 1/4 (1/4 Sec. and Sec. No.) LOS (Twp.) 26E (Range) S1E1M (Meridian)
Wildcat (Field) San Juan (County or Subdivision) Utah (State or Territory)

The elevation of the ~~land~~ land ~~area~~ area ~~is~~ is 1959 ft. (Approx. Ground)

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

1. Drill 11" hole to 1300'±.
2. Run and cement 8 5/8" casing at 1300'± with 350 sacks construction cement.
3. Drill 7 7/8" hole to total depth of 7400'±.
4. If commercial production is obtained a supplementary notice will be issued, otherwise plug and abandon in accordance with U.S.G.S. regulations.

Surface formation is Dakota Formation.

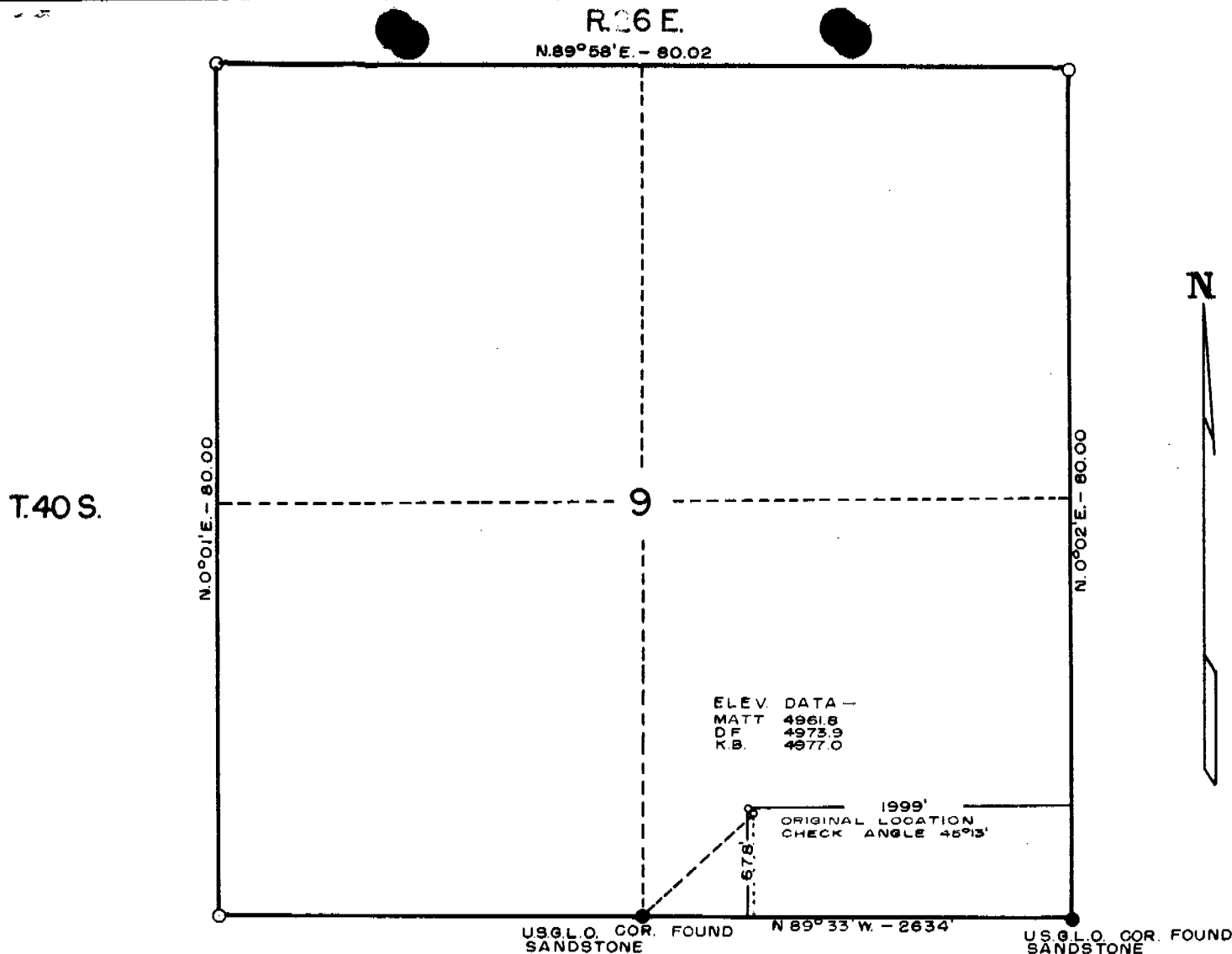
I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address 33 Richards Street

Salt Lake City, Utah

By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

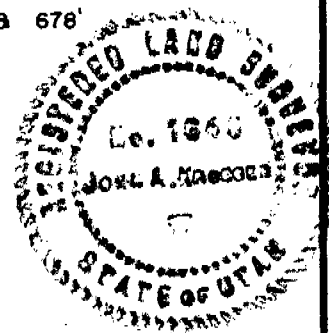


REFERENCE POINT DATUM (Original Location)

1"X2" HUB & GUARD STAKES SET AT 10' NORTH, SOUTH, EAST & WEST OF LOC.
 1/2" STEEL ROD & GUARD STAKE SET AT 150' NORTH, SOUTH, EAST & WEST OF LOC.
 1"X2" HUB & GUARD STAKE SET S28°52'E-270' FROM LOC. FOR B.M. ELEV.=4963.02
 ORIGINAL LOCATION MARKED BY 3/4" IRON PIPE SET 1974' FROM THE EAST LINE
 & 660' FROM THE SOUTH LINE OF SEC.9, T.40S., R.26E., S.L.M.
 LOCATION OF THE WELL AS DRILLED IS 1999' FROM THE EAST LINE & 678'
 FROM THE SOUTH LINE OF SEC.9, T.40S., R.26E., S.L.M.

This is to certify that the above plat was prepared from field notes of actual surveys made by me or under my supervision, during the month of January, 1957, and that the same are true and correct to the best of my knowledge and belief. Dated this 25th. day of January, 1957.

John A. Kroeger
 John A. Kroeger, Reg. Land Surveyor, No. 1648



Drawn By	A.C.T.	SHELL OIL COMPANY	Scale	1" = 1000'
Checked By	JAK		216-698 - 3	
Date	1-25-57			

LOCATION OF HOVENWEEP NO. 2
 SAN JUAN COUNTY, UTAH, T.40S., R.26E.-S.L.M.



SHELL OIL COMPANY

DESERET NEWS BUILDING
33 RICHARDS STREET
SALT LAKE CITY 1, UTAH

DAvis 2-0471
TELEPHONE ~~2-0471~~

January 29, 1957

Oil and Gas Conservation Commission
State of Utah
140 Capitol Building
Salt Lake City, Utah

Gentlemen:

The original location for our Hovenweep 2 well was topographically such that it was necessary to place the drilling rig a short distance to the northwest of the surveyed location. The location at the drilling rig has been resurveyed and is as follows:

1999' from the E. line and 678' from the S. line
of Section 9, T. 40 S., R. 26 E., S.L.B.M.,
San Juan County, Utah.

Attached please find in duplicate an amended Notice of Intention to Drill with plats for our Hovenweep 2.

Very truly yours,

B. W. Shepard

B. W. Shepard
Exploitation Engineer

Attach.

Hovenweep Area

(FIELD)

San Juan, Utah

(COUNTY)

DRILLING REPORT

FOR PERIOD ENDING

1-18-57 to 2-18-57

9

(SECTION OR LEASE)

T4OS, R26E

(TOWNSHIP OR RANGE)

DAY	DEPTHS		REMARKS
	FROM	TO	
57			
			Location: 678' N and 1999' W of SE corner Section 9, T4OS, R26E, SLEM, San Juan County, Utah.
			Elevations: Mat 4961.8 DF 4973.9 KB 4977.0
1-18	0	35	<u>Drilled 35'</u> . Spudded 6:00 PM 1-18-57.
1-19 to 1-20	35	902	<u>Drilled 867'</u> . Twisted off at 765', fished for 9 hours with overshot and recovered. Drilled. Twisted off at 902', waited on fishing tools and fished for 7 hours, recovered fish.
1-21	902	1375	<u>Drilled 473'</u> . Ran 31 jts 1336' of 8-5/8", 28#, J-55 casing cement at 1353 with 400 sacks construction cement, last 100 sacks treated with 2% calcium chloride, no cement returns to surface. Cemented around outside of casing (1" pipe) with 170 sacks cement. Pressure tested BOP and casing with 750 psi for 15 minutes, OK.
1-24	1375	1925	<u>Drilled 550'</u> . Twisted off at 1925'. Fished 5 hours, recovered fish.
1-25 to 2-2	1925	2300	<u>Drilled 375'</u> . Ran bit encountered iron at 1657'. Pulled. Ran electrical survey and found shoe joint broke off of surface casing (top 1657'-bottom 1702'). With blank drill pipe at 1728 plugged with 150 sacks construction cement. Located top of cement at 1560'. Cleaned out to 1674, bit stopped on iron. Cemented with 200 sacks treated construction cement. Pulled above cement, closed BOP rams, squeezed away 7 bbl at 1000 psi in 45 minutes. Waited on cement. Located top of cement at 1302'. Cleaned out hard cement to 1500'. Set Whipstock #1 at 1500'. Drilled by Whipstock with 5-5/8" bit to 1510'. Opened hole to 7-7/8" - deviation 1510 - 5-3/4°. Drilled to 1540', set Whipstock #2 at 1540'. Drilled by casing joint.
2-3 to 2-7	2300	3474	<u>Drilled 1174'</u> . Changed to gypsum base mud 2998-3296. Encountered water flow at 3400 - conditioned mud while drilling.
2-8 to 2-18	3474	4690	<u>Drilled 1216'</u> . Drill pipe became stuck in key seat through Whipstocked hole. Worked pipe 12 hours. Reamed tight hole.

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
DRILL PIPE SIZES				

MUD SUMMARY

1-18-57 - 2-18-57

Wt 63-79#/cu ft

Vis 38-46 sec

WL 5-15 cc

FC 2-5/32"

R. W. Olsen

SIGNED

Hovenweep Area

(FIELD)

San Juan, Utah

(COUNTY)

DRILLING REPORT

FOR PERIOD ENDING

2-19-57 to 3-8-57

9

(SECTION OR LEASE)

T40S. R26E

(TOWNSHIP OR RANGE)

DAY	DEPTH		REMARKS
	FROM	TO	
2-19 to 2-20	4690	4754	<u>Drilled 64'</u> . Lost three cones in hole, fished with magnet for 11 hours and recovered.
2-21 to 3-3	4754	5650	<u>Drilled 896'</u> .
3-4 to 3-5	5650		Attempted DST #1 5580-5650 - tool leaked. DST #1A 5579-5650 - Set packer and made initial shut in. Dropped bar, lost mud in annulus. Pulled tester. DST #1B 5574-5650 - Johnston testers. Ran tester with two packers at 5569 and 5574. Four pressure recorders 2 at 5562', 5645', 5649'. Perforations 5574-5647. No water cushion, 30' air cushion. Tool open 45 minutes, shut in 20 minutes. Immediate faint air blow decreasing to very faint in 20 minutes, decreasing to dead at end of test. Recovered 20' (0.1 bbls) mud before test 53,000 (t) salinity of recovered fluid 53,000 (t) ISIP 225, IFP 110, FFP 110, FSIP 140, HP 3295.
3-6 to 3-8	5650	5977	<u>Drilled 327'</u> . Ran electrical survey, microlog, and Gamma Ray-Neutron. DST #2 5640-5820 - Johnston testers. Ran tester with two packers 5633 and 5640. Four pressure recorders 5613, 5618, 5810 and 5815. No water cushion, 90' of air cushion. Perforations 5640-5810. Tool open 1 hour 30 minutes. Shut in 45 minutes. Strong immediate air blow, strong air blow to end of test. Recovered 326' (1.88 bbls) Slightly water cut mud. Mud before test 44,000 ppm (t). Salinity of mud after test 60,000 ppm (t).

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
11"	0	1375	8-5/8"	1353'
7-7/8"	1375	4690		
DRILL PIPE 4 1/2"				

MUD SUMMARY

2-19-57 - 3-8-57

Wt 75-84# cu ft

Vis 38-63 sec

WL 6-10 cc

FC 2-3/32"

R. W. Allen

SHELL OIL COMPANY

WELL NO. 2

Hovenweep Area

(FIELD)

San Juan, Utah

(COUNTY)

DRILLING REPORT

FOR PERIOD BEGINNING

3-9-57 to 3-25-57

9

(SECTION OR LEASE)

T408, R26E

(TOWNSHIP OR RANGE)

DAY	DEPTHS		REMARKS
	FROM	TO	
3-9 to 3-20	5977	7343	<u>Drilled 1366'</u> . Ran Schlumberger (7343') Gamma Ray-Neutron, Microlaterolog and Laterolog.
3-21 to 3-23	7343	7402	<u>Drilled 59'</u> . Ran Gamma Ray-Neutron, Microlaterolog and Laterolog.
3-24 to 3-25	7402	T.D.	With open end drill pipe plugged as follows: 7100-7300 - 60 sacks 6550-6750 - 60 sacks 5450-5700 - 75 sacks 2450-2700 - 75 sacks 1570-1700 - 40 sacks 1160-1308 - 50 sacks Located top plug at 1043'. Installed marker with a 10 sack cement cap. Released rig 5:00 AM 3-25-57 officially abandoned. MUD SUMMARY 3-9-57 - 3-25-57 Wt 76-87# cu ft Vis 51-60 sec WL 6-10 cc FC 2-3/32"

CONDITION AT BEGINNING OF PERIOD

HOLE			CASING SIZE	DEPTH SET
SIZE	FROM	TO		
11"	0	1375	8-5/8"	1353'
7-7/8"	1375	7402		
DRILL PIPE SIZES <u>4 1/2</u>				

Jet Drilling Company

Drillers: F. L. Koskie
R. Hamel
W. L. Clark
R. W. Olsen

SIGNED

DITCH SAMPLES

Examined by R. W. Olsen 2300 to 3030
E. M. Wright to _____

Well Hovenweep 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES XXXX NOT LAGGED
2300	2370	100	<u>Shale</u> , medium red to light purplish red, slightly calcareous to calcareous.	
2370	2380	80	<u>Shale</u> , as above.	
		20	<u>Limestone</u> , medium purple, mottled light green, IVFA, shaly.	
2380	2390	70	<u>Limestone</u> , as above.	
		30	<u>Shale</u> , as above.	
2390	2430	100	<u>Limestone</u> , as above.	
2430	2450	70	<u>Siltstone</u> , reddish orange, some purple, calcareous to slightly calcareous.	
		30	<u>Limestone</u> , as above.	
2450	2530	100	<u>Siltstone</u> , as above.	
2530	2550	100	<u>Shale</u> , medium purple, non-calcareous.	
2550	2580	100	<u>Sandstone</u> , white to clear, medium grain, sub-angular to sub-rounded.	
2580	2640	100	<u>Shale</u> , purple, non-calcareous, slightly sandy.	
2640	2670		No Samples.	
2670	2700	100	<u>Shale</u> , as above, with some quartz crystals.	
2700	2720	100	<u>Sandstone</u> , white, medium to coarse grained.	
2720	2750	100	<u>Shale</u> , variegated.	
2750	2780	100	<u>Sandstone</u> , white, medium to coarse grain, many free quartz grains.	
2780	2990	100	<u>Shale</u> , varicolored (purple, green, gray), calcareous.	
2990	3000	50	<u>Shale</u> , as above.	
		50	<u>Siltstone</u> , reddish orange, slightly calcareous, sandy in part.	
3000	3020	70	<u>Shale</u> , as above.	
		30	<u>Siltstone</u> , as above.	
3020	3030	50	<u>Shale</u> , as above.	
		40	<u>Siltstone</u> , as above.	
		10	<u>Chert</u> , opaque white to clear, angular to sub-rounded.	

DITCH SAMPLES

Examined by R. W. Olsen 3030 to 3340
E. M. Wright to _____

Well 2
 Field or Area Hoverweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES XXXX NOT LAGGED
3030	3080	50	<u>Shale</u> , as above.	
		50	<u>Siltstone</u> , as above.	
3080	3100	50	<u>Sandstone</u> , reddish orange to reddish brown, fine-medium grained, slightly calcareous, micaceous.	
		50	<u>Siltstone</u> , reddish orange, slightly calcareous, sandy in part.	
3100	3150	80	<u>Siltstone</u> , as above.	
		20	<u>Sandstone</u> , as above.	
3150	3300	100	<u>Siltstone</u> , as above.	
3300	3330	80	<u>Shale</u> , varicolored, predominantly bluish green, grayish green.	
		20	<u>Siltstone</u> , as above.	
3330	3340	100	<u>Siltstone</u> , reddish orange.	

DITCH SAMPLES

Examined by R. W. Olsen 3340 3950
F. M. Wright to

Well Hovenweep 2
Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES KNOW NOT LAGGED
3340	3350	70	<u>Siltstone</u> , as above.	
		30	<u>Shale</u> , variegated (purple, bluish green)	
3350	3380	50	<u>Siltstone</u> , as above.	
		50	<u>Shale</u> , as above.	
3380	3410	100	<u>Shale</u> , mottled, purple and green.	
3410	3450	100	<u>Siltstone</u> , reddish orange, some purple and green mottling.	
3450	3550	75	<u>Shale</u> , variegated (purple, green), non-calcareous to calcareous.	
		25	<u>Siltstone</u> , as above.	
3550	3600	100	<u>Siltstone</u> , reddish orange, slightly calcareous to calcareous, very fine, sandy in part.	
3600	3640	100	<u>Sandstone</u> , reddish orange, silty, slightly calcareous.	
3640	3650	100	<u>Siltstone</u> , as above.	
3650	3680	50	<u>Sandstone</u> , as above.	
		50	<u>Siltstone</u> , as above.	
3680	3700		No samples.	
3700	3740	100	<u>Siltstone</u> , as above.	
3740	3750	90	<u>Siltstone</u> , as above.	
		10	<u>Sandstone</u> , white, medium grained, angular to sub-rounded, poorly cemented.	
3750	3820	100	<u>Siltstone</u> , as above.	
3820	3860	100	<u>Sandstone</u> , reddish orange, very fine grained, calcareous to very calcareous, slightly argillaceous.	
3860	3930	100	<u>Sandstone</u> , reddish purple, fine-medium grained, angular to sub-rounded, calcareous, micaceous.	
3930	3950	50	<u>Sandstone</u> , as above.	
		50	<u>Shale</u> , reddish orange, sandy, slightly calcareous.	

BITCH SAMPLES

Examined by R.W. Olsen 3950 to 4500
F.M. Wright to

Well 2
Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES KNOWN NOT LAGGED
3950	3990	100	<u>Shale</u> , as above.	
3990	4000	10	<u>Sandstone</u> , white, medium grained, micaceous.	
		90	<u>Shale</u> , as above.	
4000	4150	100	<u>Siltstone</u> , reddish orange, calcareous, sandy.	
4150	4160	70	<u>Siltstone</u> , as above.	
		30	<u>Sandstone</u> , light pink to brown, fine grained, slightly calcareous, very friable.	
4160	4200	100	<u>Siltstone</u> , as above.	
4200	4210	100	<u>Siltstone</u> , brown, sandy, calcareous.	
4210	4250	50	<u>Siltstone</u> , brown, as above.	
		50	<u>Sandstone</u> , brown, very fine to fine grained.	
4250	4300	100	<u>Sandstone</u> , as above.	
4300	4320	70	<u>Shale</u> , reddish orange, slightly calcareous, very slightly sandy.	
		30	<u>Shale</u> , bluish gray.	
4320	4360	100	<u>Shale</u> , variegated.	
4360	4430	100	<u>Shale</u> , reddish orange, slightly calcareous.	
4430	4450	100	<u>Sandstone</u> , brown, very fine grained, slightly calcareous to calcareous.	
4450	4460	80	<u>Siltstone</u> , reddish orange, calcareous.	
		20	<u>Limestone</u> , light gray to light brown, IVFA.	
4460	4475	80	<u>Siltstone</u> , as above.	
		20	<u>Shale</u> , bluish gray, slightly calcareous.	
4475	4500	50	<u>Sandstone</u> , medium brown, very fine grained, very calcareous.	
		50	<u>Siltstone</u> , as above.	

DITCH SAMPLES

Examined by R.W. Olsen 4500 to 4710
 E.M. Wright _____ to _____
 D.L. Baars _____

Well 2
 Field or Area Havenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES EXAMINED NOT LAGGED
4500	4515	50	<u>Sandstone</u> , very fine grained, calcareous, micaceous.	
		40	<u>Siltstone</u> , as above.	
		10	<u>Limestone</u> , medium brown IVFA, slightly sandy.	
4515	4535	50	<u>Siltstone</u> , as above.	
		50	<u>Sandstone</u> , as above.	
4535	4550	45	<u>Sandstone</u> , as above.	
		45	<u>Siltstone</u> , as above.	
		10	<u>Limestone</u> , as above.	
4550	4565	80	<u>Siltstone</u> , brown to reddish orange, sandy, calcareous.	
		20	<u>Limestone</u> , as above.	
4565	4580	100	<u>Limestone</u> , white to medium grayish brown, IVFA.	
4580	4610	50	<u>Limestone</u> , as above.	
		50	<u>Sandstone</u> , very fine-fine grained, micaceous.	
4610	4625	100	<u>Limestone</u> , white to medium brown, IVFA.	
4625	4630	100	<u>Limestone</u> , light grayish brown, IVF-LA, sandy in part, clear, translucent chert fragments.	
4630	4640	100	<u>Limestone</u> , white to light grayish brown, I-II VFA.	
4640	4645	60	<u>Limestone</u> , brown, IVFA.	
		40	<u>Siltstone</u> , medium gray, calcareous.	
4645	4650	100	<u>Shale</u> , pale green and purple, silty and sandy in part.	
4650	4660	100	<u>Sandstone</u> , light-medium grained, fair-coarse grained, calcareous.	
4660	4670	50	<u>Sandstone</u> , as above.	
		50	<u>Shale</u> , light green, calcareous.	
4670	4675	100	<u>Shale</u> , light green and brown, calcareous.	
4675	4710	100	<u>Limestone</u> , light grayish brown, I-III VFA, very silty to sandy.	

DITCH SAMPLES

Examined by R.W. Olsen 4710 to 4895
E.M. Wright to _____
D.L. Baars

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES MISSING NOT LAGGED
4710	4725	100	<u>Limestone</u> , brown to grayish brown, III FA- IVFA.	
4725	4740	100	<u>Limestone</u> , white, tan, brown, IVF-FA.	
4740	4745	70	<u>Limestone</u> , tan, IVFA.	
		30	<u>Shale</u> , tan, light green.	
4745	4750	100	<u>Shale</u> , as above. (Samples very poor)	
4750	4775	100	<u>Limestone</u> , grayish brown, IVF-LA, sandy in part, fossiliferous, trace chert.	
4775	4790	100	<u>Limestone</u> , tan to brown, I-III VFA with white milky chert.	
4790	4795	100	<u>Limestone</u> , tan, IVFA.	
4795	4805	100	<u>Shale</u> , brown to green, calcareous in part.	
4805	4810	100	<u>Limestone</u> , light brown, III FA, very silty.	
4810	4815	60	<u>Limestone</u> , tan, IVFA.	
		40	<u>Limestone</u> , as above.	
4815	4825	60	<u>Shale</u> , brown, calcareous.	
		40	<u>Limestone</u> , tan, IVFA.	
4825	4835	100	<u>Limestone</u> , light grayish brown, IVFA.	
4835	4840	60	<u>Limestone</u> , white to tan, I-IIVFA, sandy in part.	
		40	<u>Shale</u> , tan, calcareous, soft.	
4840	4865	100	<u>Limestone</u> , as above.	
4865	4875	100	<u>Limestone</u> , tan, IVF-LA, pseudo-oolitic in part.	
4875	4885	100	<u>Shale</u> , brown, calcareous.	
4885	4890	100	<u>Sandstone</u> , white to tan, fine-medium grained, fine-poorly sorted, calcareous, micaceous.	
4890	4895	60	<u>Limestone</u> , light gray, III VF-FA.	
		40	<u>Sandstone</u> , as above.	

DITCH SAMPLES

Examined by R.W. Olsen 4895 to 5080
D.L. Baars _____ to _____

Well 2
 Field or Area Sevensweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES IDENTIFIED NOT LABELED
4895	4900	100	<u>Limestone</u> , as above.	
4900	4910	100	<u>Limestone</u> , tan, IVF-LA.	
4910	4915	60	<u>Shale</u> , dark gray, calcareous, silty.	
		40	<u>Limestone</u> , as above.	
4915	4925	100	<u>Shale</u> , as above.	
4925	4930	100	<u>Limestone</u> , tan to light gray, IVFA, crinoids.	
4930	4935	100	<u>Shale</u> , medium gray, soft, calcareous.	
4935	4945	100	<u>Sandstone</u> , tan, very fine-fine grained, calcareous, micaceous.	
4945	4950	50	<u>Sandstone</u> , as above.	
		50	<u>Limestone</u> , tan, III VF-FA, sandy in part.	
4950	4955	100	<u>Limestone</u> , medium brown to tan, I-III VFA, silty and sandy.	
4955	4960	100	<u>Limestone</u> , tan-medium brown, IVF-MA, sandy.	
4960	4965	100	<u>Limestone</u> , tan-light gray, I-III VFA, very sandy.	
4965	4970	100	<u>Limestone</u> , tan, IVFA, fairly sandy, rare light gray chert.	
4970	4990		No samples.	
4990	5020	100	<u>Siltstone</u> , light-medium gray, calcareous.	
5020	5030	100	<u>Limestone</u> , light grayish brown, IVFA, sandy.	
5030	5055	100	<u>Limestone</u> , medium gray, I-III VF-FA, very argillaceous and silty.	
5055	5065	100	<u>Limestone</u> , tan-light gray brown, IVFA.	
5065	5070	100	<u>Limestone</u> , mottled brown and gray, IVF-MA, pseudo-oolitic.	
5070	5075	40	<u>Limestone</u> , as above.	
		40	<u>Limestone</u> , tan, IF-LA.	
		20	<u>Shale</u> , black.	
5075	5080	50	<u>Siltstone</u> , gray, calcareous.	
		50	<u>Limestone</u> , light grayish brown, IVFA.	

DITCH SAMPLES

Examined by R.W. Olsen 5080, 5295
R.L. Knight to _____

Well 2
 Field or Area Hovanweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES INDEX NOT LAGGED
5080	5090	70	<u>Limestone</u> , as above.	
		30	<u>Siltstone</u> , as above.	
5090	5095	60	<u>Shale</u> , light gray.	
		40	<u>Limestone</u> , as above.	
5095	5100	50	<u>Shale</u> , as above.	
		50	<u>Limestone</u> , tan, IFA.	
5100	5120	100	<u>Siltstone</u> , light gray, very calcareous.	
5120	5140	100	<u>Limestone</u> , tan, IVFA.	
5140	5160	100	<u>Limestone</u> , medium, brownish gray, IVFA, slightly argillaceous.	
5160	5175	100	<u>Sandstone</u> , light gray, very fine grained, angular, well sorted, very calcareous, slightly micaceous.	
5175	5195	100	<u>Limestone</u> , tan, IVFA.	
5195	5200	100	<u>Limestone</u> , medium gray, I-III VF-FA, argillaceous.	
5200	5205	70	<u>Limestone</u> , as above.	
		30	<u>Shale</u> , medium gray, calcareous.	
5205	5215	60	<u>Limestone</u> , as above.	
		40	<u>Shale</u> , as above.	
5215	5235	100	<u>Limestone</u> , medium gray, as above.	
5235	5240	80	<u>Limestone</u> , as above.	
		20	<u>Sandstone</u> , light gray, very fine grained, very calcareous.	
5240	5245	50	<u>Limestone</u> , as above.	
		50	<u>Sandstone</u> , as above.	
5245	5280	100	<u>Limestone</u> , as above.	
5280	5285	100	<u>Shale</u> , medium gray, silty, calcareous.	
5285	5295	100	<u>Limestone</u> , white-tan, IFA.	

DITCH SAMPLES

Examined by R.W. Olsen 5295, 5475
R.L. Knight to _____

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES XXXXXX NOT TAGGED
5295	5300	50	<u>Limestone</u> , as above.	
		50	<u>Shale</u> , light gray, silty, calcareous.	
5300	5310	100	<u>Shale</u> , light gray, very calcareous.	
5310	5315	100	<u>Limestone</u> , light brown, IVFA.	
5315	5320	100	<u>Siltstone</u> , light gray, very calcareous.	
5320	5330	50	<u>Limestone</u> , as above.	
		50	<u>Sandstone</u> , tan, very fine grained, very calcareous.	
5330	5345	100	<u>Sandstone</u> , as above.	
5345	5350	100	<u>Limestone</u> , tan, IVFA.	
5350	5355	50	<u>Limestone</u> , as above.	
		50	<u>Sandstone</u> , as above.	
5355	5370	100	<u>Limestone</u> , tan, IVFA, very sandy.	
5370	5375	100	<u>Limestone</u> , medium-dark brown, I-III VF-FA.	
5375	5385	100	<u>Limestone</u> , light brown, IVFA, with rare light gray chert.	
5385	5400	100	<u>Limestone</u> , light brown, I-III VF-FA.	
5400	5415	100	<u>Limestone</u> , tan-light gray shale, brown, IVF-FA.	
5415	5425	80	<u>Limestone</u> , as above.	
		20	<u>Chert</u> , light gray, translucent.	
5425	5440	100	<u>Limestone</u> , light grayish brown, IVFA, with rare chert fragments.	
5440	5445	100	<u>Limestone</u> , tan, IVFA.	
5445	5450	50	<u>Limestone</u> , as above.	
		50	<u>Sandstone</u> , white, very fine grained, very calcareous.	
5450	5455	100	<u>Limestone</u> , as above.	
5455	5475	100	<u>Limestone</u> , light brown, I-III VF-FA, sandy.	

BITCH SAMPLES

Examined by R.W. Olsen 5475 to 5655
R.L. Knight _____ to _____

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES INDEXED NOT LAGGED
5475	5480	50	<u>Shale</u> , medium gray, silty, calcareous.	
		50	<u>Siltstone</u> , gray, calcareous.	
5480	5490	100	<u>Shale</u> , as above.	
5490	5495	100	<u>Siltstone</u> , gray, very calcareous.	
5495	5505	100	<u>Shale</u> , black, very calcareous.	
5505	5515	50	<u>Shale</u> , as above.	
		50	<u>Limestone</u> , light brown, IVFA.	
5515	5525	100	<u>Limestone</u> , tan, I-III VF-FA.	
5525	5530	80	<u>Limestone</u> , as above.	
		20	<u>Anhydrite</u> , light gray.	
5530	5535	50	<u>Limestone</u> , as above.	
		50	<u>Anhydrite</u> , as above.	
5535	5560	100	<u>Anhydrite</u> , white, medium-coarse, crystalline.	
5560	5575	100	<u>Limestone</u> , tan, IVFA.	
5575	5590	100	<u>Limestone</u> , tan, I-III VF-FA.	
5590	5600	100	<u>Dolomite</u> , light brown, IIIFA, <u>very pale blue, 10% spotty fluorescence, faint yellow cut fluorescence.</u>	
5600	5610	100	<u>Dolomite</u> , tan, III FA, calcareous, <u>very pale blue 10% spotty fluorescence, no cut fluorescence.</u>	
5610	5615	100	<u>Dolomite</u> , light grayish brown, I-III VF-FA plus trace B & C, anhydritic, <u>pale bluish yellow 30% spotty fluorescence, faint cut fluorescence.</u>	
5615	5625	100	<u>Dolomite</u> , light gray, III F-MA plus trace B & C, anhydritic, <u>shows as above.</u>	
5625	5630	100	<u>Limestone</u> , white, II VFA, very soft.	
5630	5650	100	<u>Limestone</u> , light gray to white, I-II VFA, very soft.	
5650	5655	60	<u>Shale</u> , dark gray-black, soft.	
		40	<u>Limestone</u> , tan, IVF-LA.	

DITCH SAMPLES

Examined by R.W. Olsen 5655 to 5775
R.L. Knight _____ to _____
D.L. Baars

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES INDEXED NOT LAGGED
5655	5660	100	<u>Limestone</u> , white-light tan, IVF-LA, anhydritic, <u>40% uniform greenish-yellow spotty fluorescence and cut fluorescence.</u>	
5660	5675	100	<u>Limestone</u> , as above, becoming III FA in part, <u>1% spotty yellow fluorescence and cut fluorescence.</u>	
5675	5690	100	<u>Dolomite</u> , tan, III VF-MA, slightly calcareous, anhydritic in part, slightly oil stained.	
5690	5695	80	<u>Dolomite</u> , as above, <u>50% uniform to spotty greenish yellow fluorescence and cut fluorescence.</u>	
		20	<u>Shale</u> , black, slightly calcareous and silty.	
5695	5700	60	<u>Dolomite</u> , as above.	
		40	<u>Shale</u> , as above.	
5700	5715	100	<u>Shale</u> , as above.	
5715	5730	60	<u>Shale</u> , as above. <u>2-3% spotty pale-bright yellow spotty fluorescence and cut fluorescence.</u>	
		40	<u>Limestone</u> , tan-light grayish brown, IVF-III FA. <u>Trace spotty pale-bright yellow fluorescence and cut fluorescence.</u>	
5730	5745	100	<u>Dolomite</u> , tan, III FA, very calcareous, <u>2-5% spotty very faint pale yellow fluorescence and cut fluorescence.</u>	
5745	5750	100	<u>Dolomite</u> , medium-dark brown, III FA, <u>2-5% spotty very faint pale yellow fluorescence and cut fluorescence.</u>	
5750	5755	100	<u>Dolomite</u> , as above, becoming tan III VFA, anhydritic inclusions in part, <u>3-5% spotty yellow fluorescence and cut fluorescence.</u>	
5755	5765	80	<u>Dolomite</u> , as above, shows as above.	
		20	<u>Anhydrite</u> , as above.	
5765	5770	100	<u>Dolomite</u> , brown, IVFA, argillaceous, <u>5% pale yellow spotty fluorescence and cut fluorescence.</u>	
5770	5775	70	<u>Dolomite</u> , as above, <u>5-10% medium-bright yellow spotty fluorescence, faint cut fluorescence.</u>	
		30	<u>Shale</u> , dark gray-black, dolomitic.	

DITCH SAMPLES

Examined by R.W. Olsen 5775 to 6085
R.L. Knight to _____
D.L. Baars

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES INDEXED NOT LAGGED
5775	5785	50	<u>Dolomite</u> , brown, III FA, <u>5-10% faint pale yellow spotty fluorescence, very faint cut fluorescence.</u>	
		30	<u>Shale</u> , as above.	
		20	<u>Anhydrite</u> .	
5785	5790	70	<u>Dolomite</u> , as above, <u>5% faint pale yellow spotty fluorescence, very faint cut fluorescence.</u>	
		30	<u>Anhydrite</u> .	
5790	5795	60	<u>Dolomite</u> , medium dark brown, III VF-FA, <u>shows as above.</u>	
		40	<u>Anhydrite</u> .	
5795	5800	100	<u>Dolomite</u> , dark brown, III FA + tr B, <u>strong oil stain and oil odor, 100% uniform greenish yellow spotty fluorescence, strong bright yellow cut fluorescence.</u>	
5800	5805	60	<u>Limestone</u> , tan to brown, IVFA.	
		40	<u>Dolomite</u> , as above. <u>40% greenish yellow spotty fluorescence and cut fluorescence.</u>	
5805	5810	100	<u>Limestone</u> , as above.	
5810	5840	100	<u>Shale</u> , black.	
5840	5855	100	<u>Limestone</u> , light gray to brown, I-III VFA, in part dolomitie.	
5855	5870	100	<u>Dolomite</u> , tan, III VFA, slightly calcareous.	
5870	5885	100	<u>Anhydrite</u> .	
5885	6030	100	<u>Halite</u> , with minor anhydrite.	
6030	6040	100	<u>Anhydrite</u> .	
6040	6050	100	<u>Halite</u> .	
6050	6060	100	<u>Interbedded Halite and Anhydrite</u> .	
6060	6075	100	<u>Halite</u> .	
6075	6085	100	<u>Anhydrite</u> .	

DITCH SAMPLES

Examined by R. W. Olsen ⁶⁰⁸⁵ to ⁶⁷⁷⁵
R. L. Knight to _____
D. L. Baars

Well 2
 Field or Area Hoxenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES LAGGED NOT LAGGED
6085	6170	100	<u>Halite.</u>	
6170	6185	100	<u>Anhydrite.</u>	
6185	6200	100	<u>Halite.</u>	
6200	6220	100	<u>Dolomite</u> , tan, III VFA, calcareous in part, <u>10% bright yellow spotty fluorescence and cut fluorescence.</u>	
6220	6235	100	<u>Anhydrite.</u>	
6235	6240	100	<u>Dolomite</u> , as above, no shows.	
6240	6250	50	<u>Dolomite</u> , as above.	
		50	<u>Shale</u> , black, silty in part.	
6250	6310	100	<u>Shale</u> , black, as above.	
6310	6330	100	<u>Halite.</u>	
6330	6380	100	<u>Shale</u> , as above.	
6380	6430	90	<u>Shale</u> , as above.	
		10	<u>Anhydrite.</u>	
6430	6720	100	<u>Halite.</u>	
6720	6730	100	<u>Shale</u> , black.	
6730	6760	100	<u>Sandstone</u> , medium gray to brown, very fine grained, calcareous, argillaceous.	
6760	6765	50	<u>Sandstone</u> , as above.	
		30	<u>Anhydrite.</u>	
		20	<u>Shale</u> , black.	
6765	6770	50	<u>Limestone</u> , light grayish brown, IVFA.	
		50	<u>Anhydrite</u> , white with brown, III FA dolomite inclusions.	
6770	6775	50	<u>Siltstone</u> , light gray, calcareous.	
		50	<u>Anhydrite.</u>	

DITCH SAMPLES

Examined by R. W. Olsen ^{6775 6925} to R. L. Knight to

Well 2
Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES EXAMINED NOT LAGGED
6775	6780	50	<u>Siltstone</u> , as above.	
		30	<u>Limestone</u> , tan, IVFA.	
		20	<u>Dolomite</u> , dark brown, III FA.	
6780	6785	50	<u>Limestone</u> , light brownish gray, IVFA	6780-6785) <u>trace very faint bluish</u>
		50	<u>Limestone</u> , white, III FA, very sandy.	6795-6800) <u>yellow spotty fluores-</u> <u>cence, very pale yellow</u> <u>cut fluorescence.</u>
6785	6800	100	<u>Limestone</u> , medium brown, IVFA.	
6800	6810	100	<u>Limestone</u> , light gray, IVF-MA.	6800-6840) <u>trace very faint</u>
6810	6825	100	<u>Limestone</u> , light grayish brown, IVFA.	<u>bluish yellow spotty</u> <u>fluorescence, no cut</u> <u>fluorescence.</u>
6825	6835	100	<u>Dolomite</u> , light gray, III FA, argillaceous.	
6835	6840	80	<u>Dolomite</u> , as above.	
		20	<u>Anhydrite</u> .	
6840	6855	100	<u>Dolomite</u> , light brownish gray, III F-MA, with white anhydrite inclusions.	
6855	6865	100	<u>Dolomite</u> , medium gray, III F-MA, very argillaceous, anhydritic.	
6865	6875	50	<u>Dolomite</u> , as above.	
		50	<u>Siltstone</u> , pale gray, very calcareous.	
6875	6900	100	<u>Dolomite</u> , light gray, III FA, argillaceous.	
6900	6905	100	<u>Dolomite</u> , light to medium brown, III F-MA.	
6905	6910	100	<u>Dolomite</u> , medium gray, brown III FA, anhydritic.	
6910	6915	60	<u>Anhydrite</u> , white.	
		40	<u>Dolomite</u> , light brown, III FA.	
6915	6920	50	<u>Anhydrite</u> , as above. <u>20% strong uniform yellow spotty fluorescence,</u> <u>strong yellow cut fluorescence.</u>	
		50	<u>Dolomite</u> , light medium brown, III FA.	
6920	6925	40	<u>Anhydrite</u> , <u>10% spotty fluorescence and cut fluorescence as above.</u>	
		60	<u>Dolomite</u> , as above.	

DITCH SAMPLES

Examined by R. W. Olsen 6925 to 7035
R. L. Knight to _____
L. L. Aubart

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES EXPOSED NOT LAGGED
6925	6930	100	<u>Dolomite</u> , dark gray, III FA, <u>very</u> argillaceous probably silty.	
6930	6945	100	<u>Dolomite</u> , as above.	6940-6945) <u>trace spotty fluorescence as above, very pale yellow cut fluorescence.</u>
6945	6955	100	<u>Dolomite</u> , light gray, III FA.	
6955	6960	40	<u>Dolomite</u> , as above.	
		60	<u>Limestone</u> , dark brown, IVFA.	
6960	6965	100	<u>Limestone</u> , medium brown, I VF-FA.	
6965	6970	100	<u>Limestone</u> , as above.	
6970	6975	100	<u>Limestone</u> , as above.	
6975	6980	100	<u>Limestone</u> , as above.	
6980	6985	100	<u>Limestone</u> , medium gray, I VF-FA.	
6985	6990	100	<u>Limestone</u> , light gray brown, I VF-MA with few veins calcite.	
6990	6995	100	<u>Limestone</u> , as above.	
6995	7000	100	<u>Limestone</u> , as above.	
7000	7005	100	<u>Limestone</u> , as above.	
7005	7010	100	<u>Limestone</u> , as above.	
7010	7015	100	<u>Limestone</u> , as above.	
7015	7020	100	<u>Limestone</u> , as above.	
7020	7025	20	<u>Chert</u> , tan, translucent, spicular.	
		80	<u>Limestone</u> , tan, I VF-FA.	
		tr	<u>Limestone</u> , medium green, III FA.	
7025	7030	10	<u>Chert</u> , as above.	
		10	<u>Sandstone</u> , light green, very fine, angular, argillaceous, calcareous.	
		10	<u>Limestone</u> , medium green, I VFA.	
		70	<u>Limestone</u> , tan, I VF-FA.	
7030	7035	90	<u>Limestone</u> , tan, I VFA.	

DITCH SAMPLES

Examined by R. L. Knight ⁷⁰³⁰ to ⁷¹¹⁵
L. I. Aubert to _____
R. W. Olsen

Well 2
Field or Area Hovansnap

FROM	TO	%	SHOWS UNDERLINED	SAMPLES CHERT NOT LAGGED
		10	<u>Limestone</u> , light green, I VFA.	
7035	7040	100	<u>Sandstone</u> , light gray, very fine, angular, very calcareous, well sorted.	
7040	7045	100	<u>Sandstone</u> , as above.	
7045	7050	50	<u>Sandstone</u> , as above.	
		50	<u>Limestone</u> , tan-white, I-II VF-FA.	
7050	7055	100	<u>Limestone</u> , as above.	
7055	7060	30	<u>Shale</u> , light green mottled red, very calcareous.	
		70	<u>Limestone</u> , light green, I VFA.	
7060	7065	30	<u>Shale</u> , light gray, mottled purple, calcareous.	
		70	<u>Limestone</u> , as above.	
7065	7070	50	<u>Limestone</u> , tan, I VF-MA with fusilinids.	
		50	<u>Limestone</u> , light green, mottled purple, I VFA.	
7070	7075	100	<u>Limestone</u> , light brownish gray, I-III VF-FA.	
7075	7080	70	<u>Limestone</u> , as above. Sample top molas - 7080.	
		30	<u>Limestone</u> , medium green, III FA.	
7080	7085	20	<u>Chert</u> , white and orange.	
		80	<u>Limestone</u> , purple, I VFA.	
7085	7090	20	<u>Chert</u> , as above.	
		80	<u>Limestone</u> , purple, I VFA, argillaceous and sandy.	
7090	7095	100	<u>Limestone</u> , as above with chert fragments.	
7095	7100	100	<u>Limestone</u> , as above.	
7100	7105	100	<u>Shale</u> , orange, silty, calcareous, very soft.	
7105	7110	100	<u>Shale</u> , as above.	
7110	7115	100	<u>Limestone</u> , light purple, I VFA.	

DITCH SAMPLES

Examined by R. L. Knight ^{7115 7402} to _____
L. L. Aubert to _____
R. W. Olsen

Well 2
 Field or Area Hovenweep

FROM	TO	%	SHOWS UNDERLINED	SAMPLES XXXXXX NOT LAGGED
7115	7170	100	<u>Limestone</u> , as above.	
7120	7125	70	<u>Limestone</u> , light tan, I VFA.	
		30	<u>Shale</u> , purple.	
7125	7130	100	<u>Limestone</u> , as above with shell fragments.	
7130	7140	50	<u>Limestone</u> , as above.	
		50	<u>Shale</u> , as above.	
7140	7155	30	<u>Limestone</u> , as above.	
		70	<u>Shale</u> , as above.	
7155	7195	100	<u>Limestone</u> , white I-III FA with shell fragments.	
7195	7205	100	<u>Limestone</u> , as above.	
7205	7230	50	<u>Limestone</u> , as above.	
		50	<u>Shale</u> , black.	
7230	7265	100	<u>Limestone</u> , white, III FA, eolitic.	
7265	7295	75	<u>Limestone</u> , as above.	
		25	<u>Limestone</u> , tan, I VFA.	
7295	7305	100	<u>Limestone</u> , tan, as above, trace dolomite (III FA)	
7305	7325	50	<u>Limestone</u> , as above.	7295-7310) <u>trace pale yellow</u>
		50	<u>Dolomite</u> , tan, III FA.	<u>spotty fluorescence,</u>
7325	7330	100	<u>Dolomite</u> , tan-light brown, III MA.	<u>light cut fluorescence,</u>
				<u>when crushed.</u>
7330	7350	100	<u>Dolomite</u> , tan-brown, III FA.	
7350	7365	100	<u>Dolomite</u> , gray-light brown, III MA.	
7365	7402	100	<u>Dolomite</u> , as above with trace of B.	

January 30, 1957

Shell Oil Company
Deseret News Building
33 Richards Street
Salt Lake City, Utah

Re: Well No. Hovenweep 2

Gentlemen:

This is to acknowledge receipt of your amended notice of intention to drill relative to the above mentioned well.

Please be advised that insofar as this office is concerned approval to drill said well 1999 feet from the east line and 678 feet from the south line of Section 9, Township 40 South, Range 26 East, S1EM, San Juan County, Utah, is hereby granted.

Yours very truly,

OIL & GAS CONSERVATION COMMISSION

GILSON B. FRIGHT
SECRETARY

CBF:en

cc: Phil McGrath
USGS, Farmington,
New Mexico

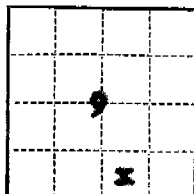
(SUBMIT IN TRIPLICATE)

Indian Agency Navajo-Window

Rock, Arizona

Allottee Tribal Lands

Lease No. I-149-DE-9125



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

7157
2-18-57

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF		SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	X
NOTICE OF INTENTION TO ABANDON WELL			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

February 5, 1957

Well No. 2 is located 676 ft. from 100 line and 1999 ft. from E line of sec. 9

SE 9 40S 26E SLM
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Wildcat San Juan Utah
(Field) (County or Subdivision) (State or Territory)

The elevation of the Kelly Bushing ~~above~~ above sea level is 1977 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

1-26 to 2-4-57 Drilled to 2300'. While running in hole with new bit, hit impassable bridge at 1657'. Pulled, ran Electrical Survey and found shoe joint had broken off of surface casing (top 1657', bottom 1702'). With blank drill pipe at 1728' plugged with 150 sacks treated construction cement. Located top of cement at 1560', cleaned out to 1674' and bit stopped on iron. Cemented with 200 sacks treated construction cement. Pulled above cement, closed BOP rams, squeezed away 7 bbl. of cement at 1000 psi. in 45 minutes. Finished 8:00 P.M. 1-28-57. Waited on cemented. Located top of cement at 1302'. Cleaned out cement to 1500'. Set whipstock #1 at 1500'. Drilled by whipstock with 5 5/8" bit to 1510'. Opened

(over)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Hall Oil Company

Address 33 Richards Street

Salt Lake City, Utah

By B. W. Shepard

B. W. Shepard

Title Exploitation Engineer

(SUBMIT IN TRIPLICATE)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Indian Agency Window Rock
Arizona
Allottee Tribal Lands
Lease No. I-149-IND-9125

SUNDRY NOTICES AND REPORTS ON WELLS

NOTICE OF INTENTION TO DRILL.....		SUBSEQUENT REPORT OF WATER SHUT-OFF.....	
NOTICE OF INTENTION TO CHANGE PLANS.....		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.....	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.....		SUBSEQUENT REPORT OF ALTERING CASING.....	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL.....		SUBSEQUENT REPORT OF REDRILLING OR REPAIR.....	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.....		SUBSEQUENT REPORT OF ABANDONMENT.....	
NOTICE OF INTENTION TO PULL OR ALTER CASING.....		SUPPLEMENTARY WELL HISTORY.....	
NOTICE OF INTENTION TO ABANDON WELL.....	X		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

March 25, 19 57

Hovenweep
Well No. 2 is located 678 ft. from N line and 1999 ft. from E line of sec. 9

SE/4 40S 26E SLEM
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Wildcat San Juan Utah
(Field) (County or Subdivision) (State or Territory)

Kelly Bushing
The elevation of the ~~derivation~~ floor above sea level is 4977 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Status:

Total Depth - 7402'
Casing - 8 5/8" @ 1308
Hole size - 7 7/8" from 1308 to total depth
Penetrated top of Leadville (Miss) 3-18-57

Proposed work:

1. Plug as follows through open end drill pipe:
 - a. With 60 sacks 7100-7300
 - b. With 60 sacks 6550-6750

(Over)

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

Company Shell Oil Company

Address 33 Richards St.

Salt Lake City Division

By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

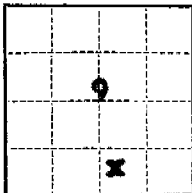
(SUBMIT IN TRIPLICATE)

Indian Agency Window Rock

Arizona

Allottee Tribal Lands

Lease No. 1-142-Ind-2125



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

*Notes
CAF
7-12-57*

NOTICE OF INTENTION TO DRILL	SUBSEQUENT REPORT OF WATER SHUT-OFF	
NOTICE OF INTENTION TO CHANGE PLANS	SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	SUBSEQUENT REPORT OF REDRILLING OR REPAIR	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE	SUBSEQUENT REPORT OF ABANDONMENT	X
NOTICE OF INTENTION TO PULL OR ALTER CASING	SUPPLEMENTARY WELL HISTORY	
NOTICE OF INTENTION TO ABANDON WELL		

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

June 27, 19 57

Hovenweep
Well No. 2 is located 678 ft. from IX line and 1999 ft. from E line of sec. 9

SE 4 40S 26E SLEB
(1/4 Sec. and Sec. No.) (Twp.) (Range) (Meridian)
Wildcat San Juan Utah
(Field) (County or Subdivision) (State or Territory)

Kelly Rushing
The elevation of the surface above sea level is 4977 ft.

DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, cementing points, and all other important proposed work)

Status: Total depth - 7402'
Casing - 8 5/8" @ 1308
Hole Size - 7 7/8" from 1308 to total depth.

Abandonment work:

- Plugged as follows through open end drill pipe:
 - With 60 sacks 7100-7300.
 - With 60 sacks 6550-6750.
 - With 75 sacks 5450-5700.
 - With 75 sacks 2450-2700.
 - With 40 sacks 1570-1700.
 - With 50 sacks 1160-1308.
- Located top of cement at 1043'.
- Capped with a 10 sack cement plug, installed marker and abandoned in accordance w/USGS reg. 3-25-57.

I understand that this plan of work must receive approval in writing by the Geological Survey before operations may be commenced.

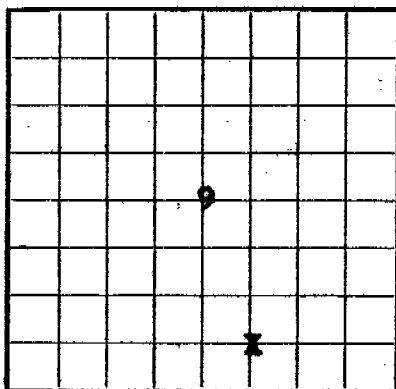
Company Shell Oil Company

Address 108 N. Behrend

Farmington, New Mexico

By B. W. Shepard
B. W. Shepard
Title Exploitation Engineer

Window Rock, Ariz.
U. S. LAND OFFICE
SERIAL NUMBER **I-149-IND-9125**
LEASE OR PERMIT TO PROSPECT



LOCATE WELL CORRECTLY

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

Company **Shell Oil Company** Address **101 S. Behrend, Farmington, N.M.**
Lessor or Tract **Tribal Lands** Field **Wildcat** State **Utah**
Well No. **2** Sec. **9** T. **40S** R. **26E** Meridian **S1E4** County **San Juan**
Location **678** ft. **[N.]** of **3** Line and **1229** ft. **[W.]** of **E** Line of **Section 9** Elevation **4977** KB
(Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed **B. W. Shepard**
Date **July 18, 1957** Title **Exploitation Engineer**

The summary on this page is for the condition of the well at above date.

Commenced drilling **January 18**, 19 **57** Finished drilling **March 23**, 19 **57**

OIL OR GAS SANDS OR ZONES

(Denote gas by G) **NONE**

No. 1, from _____ to _____ No. 4, from _____ to _____
No. 2, from _____ to _____ No. 5, from _____ to _____
No. 3, from _____ to _____ No. 6, from _____ to _____

IMPORTANT WATER SANDS

No. 1, from **3400** to **3450** No. 3, from _____ to _____
No. 2, from _____ to _____ No. 4, from _____ to _____

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From—	To—	
8-5/8"	28 1/2	3	Spring	1336	Baker				Surface
HIDOKA OL OIT OK GYS MFTT									

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
8-5/8"	1353	400	Displacement		

PLUGS AND ADAPTERS

Heaving plug—Material _____ Length _____ Depth set _____

Adapters—Material

Size

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
			Note			

TOOLS USED

Rotary tools were used from 0 feet to 7402 feet, and from feet to feet

Cable tools were used from feet to feet, and from feet to feet

DATES

Abandoned as a "dry hole"

March 25, 1957

Put to producing , 19

The production for the first 24 hours was barrels of fluid of which % was oil; % emulsion; % water; and % sediment.

Gravity, °Bé.

If gas well, cu. ft. per 24 hours Gallons gasoline per 1,000 cu. ft. of gas

Rock pressure, lbs. per sq. in.

EMPLOYEES

F. L. Koskie

, Driller

Jet Drilling Company

W. L. Clark

, Driller

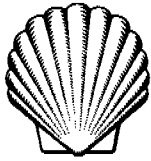
R. Hamel

, Driller

, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
1523	2470	947	Chinle
2470	2570	100	Shinarump
2570	2670	100	Moenkopi
2670	4540	1870	Cutter Group
4540	5674	1134	Upper Hermosa
5674	6695	1021	Paradox
6695	7065	370	Lower Hermosa
7065	7119	54	Molas
7119	7290	171	Leadville
7290	-		Mississippian Dolomite



SHELL OIL COMPANY

Post Office Box 1200
Farmington, New Mexico

June 26, 1961

The State of Utah
Oil and Gas Conservation Commission
310 Newhouse Building
Salt Lake City 11, Utah

Attention A. W. Glines

Gentlemen:

Regarding your letter of June 22, 1961, we are forwarding two copies each of the following logs on Hovenweep No. 2:

Micro Log
Microlaterolog
Gamma Ray Neutron
Laterolog
Electrical Log

Very truly yours,

W. M. Marshall

R. R. Robison
Division Production Manager

RJC:GC

Enclosures